

a complementary acid, said complementary acid being selected from the group consisting of phosphoric acid, hydrochloric acid, and combinations thereof;

a non-aqueous solvent, said non-aqueous solvent being selected from the group consisting of tetrahydrofuran, propylene carbonate, and blends thereof; and

a surface passivation agent, wherein

said fluorine source, said complementary acid, said non-aqueous solvent and said passivation agent are present in said conditioning solution in concentrations suitable for the selective removal of said residues relative to any exposed metal on said semiconductor substrate.

147. (Twice Amended) The solution of claim 146, wherein said complementary acid is present in sufficient amount to contribute to said fluorine source substantially remaining in molecular form.

148. (Twice Amended) The solution of claim 142, wherein said fluorine source, said complementary acid, said passivation agent, and said non-aqueous solvent are present in said solution in sufficient concentrations to suppresses the solubility of aluminum fluoride.

150. (Four Times Amended) A conditioning solution configured to selectively remove residues remaining on a semiconductor substrate after a dry etch process relative to exposed metal, said conditioning solution comprising:

hydrofluoric acid or ammonium fluoride;

hydrochloric acid or phosphoric acid;

tetrahydrofuran or propylene carbonate; and

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ascorbic acid or ethylene diamine tetraacetic acid acting as a surface passivation agent.

154. (Twice Amended) The solution of claim 150, wherein said hydrofluoric acid or ammonium fluoride are configured for said selective removal by said solution in that they remain substantially in molecular form.

156. (Twice Amended) The solution of claim 150, wherein said hydrofluoric acid or ammonium fluoride, said hydrochloric acid or phosphoric acid, said ethylene glycol or propylene carbonate, and said ascorbic acid are present in said solution in sufficient concentrations to suppress the solubility of aluminum fluoride.

158. (Four Times Amended) A conditioning solution configured to remove residues remaining on a semiconductor substrate after a dry etch process relative to exposed metal, said conditioning solution consisting essentially of:

about 0.27% molecular HF and H₂F₂;

about 91.5% to about 97.5% propylene glycol;

about 6.5% H₂PO₄ or about 0.006% HCl;

about 0.25% citric acid; and

no more than about 2% water.